CLAIMS

1) Method (400) for selecting a combination of
transport formats for a composite channel comprising at
5   least two transport channels with a view to the
transmission of data conveyed by said transport
channels, said combination of transport formats being
comprised within a predetermined set E of combinations
of transport formats, each combination of transport
10 formats comprising a transport format for each of said
at least two transport channels, the data to be
transmitted originating from logical channels, each
logical channel being associated with a single
transport channel, each logical channel having a degree
15 of priority with respect to the other logical channels,
the data being transmitted within said transport
channels during consecutive transmission time
intervals, each transmission time interval exhibiting a
duration specific to the transport channel to which it
20 pertains, said selection of combination of transport
formats being implemented at the start of reference
transmission time intervals, said reference
transmission time intervals designating the
transmission time intervals of the transport channel
25 having the smallest duration of transmission time
interval,
characterized in that it comprises:
- a configuration phase (410), said configuration phase
comprising, for each logical channel (LCj), a first
30 allocation step, said first allocation step consisting
in allocating to the logical channel considered a time

window size expressed as a number N of transmission
time intervals and a minimum bit rate representing a
minimum quantity of data to be transmitted within the
associated transport channel during a period of time
5   corresponding to a number N+1 of consecutive
transmission time intervals, said consecutive
transmission time intervals pertaining to the
associated transport channel, and

–   a selection phase (420), said selection phase
10 comprising a step (500) of selecting a combination of
transport formats at the start of each of said
reference transmission time intervals, said selection
step taking into account on the one hand the set of
said sizes N of time windows allocated and on the other
15 hand the set of said allocated minimum bit rates.

2) Method according to Claim 1, characterized in that
said selection step (500) comprises the following
preparatory steps:
20 a) a first preparatory step (510) consisting in
    creating a subset F of combinations of transport
    formats comprising the combinations of transport
    formats which are valid of said set E of
    combinations of transport formats, said subset F
25 of combinations of transport formats comprising,
    for the transport channels, the start of which
    current transmission time interval does not
    coincide with the start of the current reference
    transmission time interval, a transport format in
30 accordance with that

used during said current transmission time interval,

b) a second preparatory step (515) consisting in defining, for each of the logical channels for which the start of the current reference transmission time interval coincides with the start of a transmission time interval of the associated transport channel, a time window comprising the current transmission time interval of the associated transport channel and the N previous transmission time intervals, and in calculating the quantity of data transmitted within the associated transport channel during the first N transmission time intervals of the time window.

3) Method according to Claim 2, characterized in that said selection step (500) furthermore comprises a step of first iteration (535), said step of first iteration following upon said preparatory steps, said step of first iteration consisting in selecting a combination of transport formats from said subset F of combinations of transport formats making it possible to transmit, during said time window, for each of the logical channels concerned bysaid second preparatory step (515), or, by default, for the logical channels the degree of priority of which is the highest within the associated transport channels, the smallest quantity of data which is greater than or equal to that corresponding to the minimum bit rate allocated to the logical channel considered, the logical channels being scanned according to an order of scan, said order of

scan complying with the descending order of the degrees of priority of the logical channels concerned by said second preparatory step (515).

5   4) Method according to Claim 3, characterized in that said step of first iteration (535) comprises, for each logical channel concerned by said second preparatory step, said logical channels being processed according to said order of scan, the following steps:

10   - selecting a combination of transport formats from said subset F of combinations of transport formats making it possible to transmit, during the time window, within the associated transport channel, the smallest quantity of

15   data which is greater than or equal to that corresponding to the minimum bit rate or, by default, the largest possible quantity of data, and

        - reducing the subset F of combinations of

20   transport formats to the combinations of transport formats making it possible to transmit, during the time window, a quantity of data which is greater than or equal to that of the selected combination of transport formats,

25   the resulting subset F of combinations of transport formats being used for the processing of the logical channel if the case arises.

  5) Method according to any of Claims 1 to 4,
30 characterized in that said configuration phase (410) furthermore comprises, for each logical channel, a

second allocation step (450), said second allocation step consisting in allocating to the logical channel considered a nominal bit rate representing a nominal quantity of data to be transmitted during a period of

5   time corresponding to N+1 consecutive transmission time intervals, said consecutive transmission time intervals pertaining to the associated transport channel, said nominal quantity of data being greater than or equal to said minimum quantity of data.

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6) Method according to Claim 5 taken in conjunction with Claim 2, characterized in that said selection step (500) furthermore comprises, following upon said step of first iteration, a step of second iteration (535) in

15   which a combination of transport formats is selected from said subset F of combinations of transport formats making it possible to transmit, during said time window, for each of the logical channels concerned by said second preparatory step, or, by default, for the

20   logical channels the degree of priority of which is the highest within the associated transport channels, the largest quantity of data which is less than or equal to that corresponding to the nominal bit rate allocated to the logical channel considered.

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7) Method according to Claim 6, characterized in that said step of second iteration (535) consists in performing, for each logical channel concerned by said second preparatory step, said logical channels being

30   processed according to said order of scan, the following steps:

- selecting a combination of transport formats from said subset F of combinations of transport formats making it possible to transmit, during the time window, within the associated transport channel, the largest quantity of data which is less than or equal to that corresponding to the nominal bit rate, and
- reducing said subset F of combinations of transport formats to the combinations of transport formats making it possible to transmit, during the time window, a quantity of data which is greater than or equal to that of the selected combination of transport formats, the resulting subset F of combinations of transport formats being used for the processing of the logical channel if the case arises.

8) Method according to any of Claims 3, 4, 6 and 7, characterized in that said selection step (500) furthermore comprises, following upon the last iteration step, a step of third iteration in which a combination of transport formats is selected from the subset F of combinations of transport formats making it possible to transmit, during said time window, for each of the logical channels concerned by said second preparatory step (515), or, by default, for the logical channels the degree of priority of which is the highest within the associated transport channels, the quantity of data available within the logical channels considered.

9) Method according to Claim 8, characterized in that said step of third iteration consists in performing, for each logical channel concerned by said second preparatory step (515), said logical channels being
5   processed according to said order of scan, the following steps:

- selecting a combination of transport formats from said subset F making it possible to transmit, during said time window, within the
10   associated transport channel, the quantity of data available within the logical channel considered, and

- reducing said subset F of combinations of transport formats to the combinations of
15   transport formats making it possible to transmit, during said time window, a quantity of data which is greater than or equal to that of the selected combination of transport formats, the resulting subset F of combinations
20   of transport formats being used for the processing of the next logical channel.

10) Method according to any of the preceding claims taken in conjunction with Claim 3, characterized in
25   that said selection step (500) furthermore comprises a third preparatory step (505), said third preparatory step consisting in modifying said order of scan in such a way as to order the logical channels of same degree of priority as a function of a state parameter (STATE)
30   representative of the quantity of data transmitted

during the last selection step concerning the logical
channel considered.

11) Method according to Claims 2 and 10 taken in
5   conjunction, characterized in that said selection step
(500) furthermore comprises an updating step (575),
said updating step following upon the last iteration
step, said updating step consisting in updating the
STATE parameter of each logical channel concerned by
10 said second preparatory step by calculating the
quantity of data transmitted during the previous N
transmission time intervals and said current
transmission time interval and by comparing said
calculated quantity of data with said minimum bit rate
15 of the concerned logical channel.

12) Method according to Claims 11 and 5 taken in
conjunction, characterized in that, during said
updating step, said calculated quantity of data is also
20 compared with said nominal bit rate of the concerned
logical channel.

13) Method according to any of the preceding claims,
characterized in that the size (N) of the time window
25 of a logical channel is determined as a function of the
service fulfilled by the latter.

14) Mobile station of a telecommunication system
characterized in that it comprises a device
30 implementing the method for selecting a combination of
transport formats according to any of Claims 1 to 13.